

Interference Test of 5G/LTE User Equipment with Signal Generator and RF Signaling call box

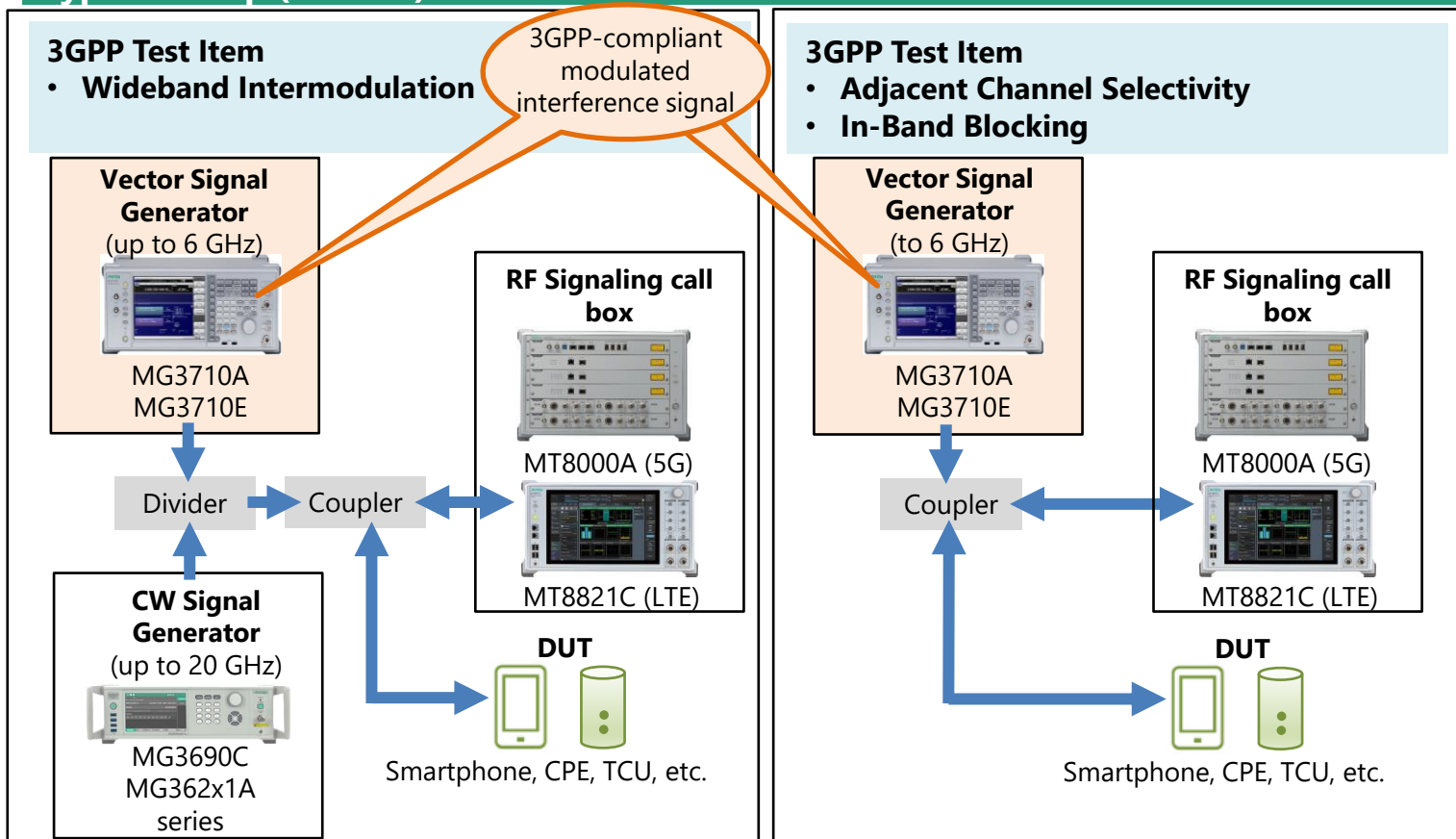
- Vector Signal Generator MG3710A/MG3710E
- Interference Waveform Pattern for 5G NR Receiver Test MX371055A
- Interference Waveform Pattern for LTE Receiver Test MX371054A
- RF/Microwave Signal Generator MG3690C/MG362x1A series
- Radio Communication Test Station MT8000A
- Radio Communication Analyzer MT8821C

The RF conformance test certifying compliance with 3GPP and national/regional laws and regulations must be passed after completing product development before 5G/LTE user equipment can be released commercially. To avoid the risk of increased development costs as a result of failing the RF conformance test, it is essential to prepare for the final test by performing preliminary evaluations from the prototype stage.

Preliminary evaluation requires a vector signal generator for receiver tests in addition to the commonly used RF Signaling call box. Moreover, it is important to use a vector signal generator as an interference signal source to suppress degrading receiver sensitivity due to interference signals as well as to develop user equipment with high throughput performance and market competitiveness.

Anritsu has prepared 3GPP-compliant modulated interference waveform patterns (main patterns in sub-6 GHz band) for use with its Vector Signal Generator MG3710A/MG3710E. The signal conditions are identified by waveform pattern name for easy selection and output of the required signal, thereby improving work efficiency. They can be used in combination with the CW Signal Generator MG3690C/MG362x1A series for evaluating user equipment.

Typical Setup (Outline)



Product Summary

Model	Name	Applicable Instrument
MX371055A	Interference Waveform Pattern for 5G NR Receiver Test	Vector Signal Generator MG3710A/MG3710E
MX371054A	Interference Waveform Pattern for LTE Receiver Test	

<Specifications>

MX371055A Interference Waveform Pattern for 5G NR Receiver Test

■ 3GPP Standard

3GPP TS 38.521-1V17

UE conformance specification, Radio transmission and reception, Part 1: Conformance testing

■ Table

Table A.3.2.2-1 Fixed reference channel for receiver requirements (SCS 15 kHz, FDD, QPSK 1/3)

Table A.3.2.2-3 Fixed reference channel for receiver requirements (SCS 30 kHz, FDD, QPSK 1/3)

Table A.3.3.2-1 Fixed reference channel for receiver requirements (SCS 15 kHz, TDD, QPSK 1/3)

Table A.3.3.2-2 Fixed reference channel for receiver requirements (SCS 30 kHz, TDD, QPSK 1/3)

■ Receiver Test Items

Compatible with stand-alone (SA) and single carrier

7.5 Adjacent Channel Selectivity, 7.6.2 In-band blocking,

7.8.2 Wide band Intermodulation

■ Conditions

Channel bandwidth [MHz]	SCS [kHz]	Allocated resource blocks	Modulation
5	15	25	QPSK
10	15	52	QPSK
15	15	79	QPSK
20	15	106	QPSK
40	15	216	QPSK
50	15	270	QPSK
10	30	24	QPSK
15	30	38	QPSK
20	30	51	QPSK
40	30	106	QPSK
50	30	133	QPSK
60	30	162	QPSK
80	30	217	QPSK
90	30	245	QPSK
100	30	273	QPSK

MX371054A Interference Waveform Pattern for LTE Receiver Test

■ 3GPP Standard

3GPP TS 36.521-1V16

UE conformance specification, Radio transmission and reception, Part 1: Conformance testing

■ Table

Table A.3.2-1 Fixed Reference Channel for Receiver Requirements (FDD)

Table A.3.2-2 Fixed Reference Channel for Receiver Requirements (TDD)

■ Receiver Test Items

Compatible with single carrier, Not compatible with NB-IoT/Cat.M1

7.5 Adjacent Channel Selectivity, 7.6.1 In-band blocking,

7.8.1 Wide band Intermodulation

■ Conditions

Channel bandwidth [MHz]	SCS [kHz]	Allocated resource blocks	Modulation
1.4	15	6	QPSK
3	15	15	QPSK
5	15	25	QPSK
10	15	50	QPSK
20	15	100	QPSK

Ordering Information (Minimum Required Configuration)

Model	Name
MG3710E	Vector Signal Generator
MG3710E-036	1stRF 100 kHz to 6 GHz
MX371055A	Interference Waveform Pattern for 5G NR Receiver Test
MX371054A	Interference Waveform Pattern for LTE Receiver Test

- The MX371055A and MX371054A can be retrofitted to the current MG3710A/MG3710E.
- Anritsu also sells 5G/LTE IQproducer software to create waveform patterns for various conditions. Refer to the product brochure for details.